

Abstract:

A paint system and process are disclosed for hardfacing metal surfaces. In one embodiment of the process, a paint including a dispersion of hard particles is first applied as a coating to a surface. Next, a paint including a dispersion of a braze alloy is applied over the layer of hard particles. The surface is then heated to cause the braze alloy to melt and infiltrate into the hard particles thereby bonding them to the metallic surface. In another embodiment, a first layer of adhesive is applied, and a hardfacing powder is applied onto the adhesive. Then a second layer of adhesive is applied, and a braze alloy powder is applied onto the second adhesive. Then the material is heated as in the first embodiment. In another embodiment, paint containing hard particles is coated onto the substrate, and an acid-containing cross-linked copolymer in the paint is then neutralized to increase the viscosity of the paint to prevent running.